What is Claimed is:

1. An isolated human monoclonal antibody designated RM4 (ATCC deposit No. PTA-5412) that selectively binds to an antigen designated AgRM4.

2. An antibody having the binding specificity of the antibody of claim 1.

3. An antibody that competes for the binding of the antibody of claim 1 to AgRM4.

4. An antibody that binds to an epitope of AgRM4 to which the antibody of claim 1 binds.

5. An antibody having the binding specificity of the antibody of claim 1 and having a binding affinity for AgRM4 within 1000-fold of the antibody of claim 1.

6. The antibody of claim 5, wherein the antibody has a binding affinity for AgRM4 within 100-fold of the antibody of claim 1.

7. The antibody of claim 1, wherein the antibody has a binding affinity for AgRM4 within 10-fold of the antibody of claim 1.

8. An antibody having significant binding affinity for AgRM4.

9. The antibody of claim 1, wherein the antibody is polyclonal or monoclonal.

10. The antibody of claim 1, wherein the antibody is modified from the light chain or the heavy chain amino acid sequence of RM4 (ATCC deposit No. PTA-5412), provided that the modified antibody binds to AgRM4.

11. The antibody of claim 10, wherein the modified antibody has an amino acid substitution, addition or deletion.

12. The antibody of claim 10, wherein the modified antibody comprises an Fab, Fab', Fv, $F(ab')_2$, Fd, or a single chain Fv.

13. The antibody of claim 1, wherein the antibody contains a cytotoxic molecule.

14. The antibody of claim 13, wherein the cytotoxic molecule is selected from a bacterial toxin, plant toxin, radionuclide, cytotoxic drug, or cytokine.

15. The antibody of claim 14, wherein the radionuclide is an alpha, beta or gamma emitter.

16. The antibody of claim 1, wherein the antibody contains a detectable label or tag.

17. The antibody of claim 16, wherein the detectable label is selected from a radioisotope, fluorescent compound, colloidal metal, chemiluminescent compound, bioluminescent compound, enzyme or a paramagnetic label.

18. The antibody of claim 1, wherein the antigen designated AgRM4 is expressed in proliferating cells.

19. The antibody of claim 1, wherein the antibody binds to hyperproliferating cells.

20. The antibody of claim 19, wherein the hyperproliferating cells are selected from a breast, colon, gut, or lung cell.

21. The antibody of claim 19, wherein the hyperproliferating cells comprise a metastatic or non-metastatic cancer cell.

22. The antibody of claim 21, wherein the metastatic or non-metastatic hyperproliferating cancer cells are selected from a breast, colon, gut, or lung cancer cell.

23. The antibody of claim 1, wherein the antigen designated AgRM4 is expressed at least in part on the cell surface.

24. An isolated human monoclonal antibody designated RM2 (ATCC deposit No. PTA-5411) that selectively binds to an antigen designated AgRM2.

25. The antibody of claim 24, wherein the antibody is polyclonal or monoclonal.

26. The antibody of claim 24, wherein the modified antibody has an amino acid addition or deletion.

27. The antibody of claim 26, wherein the modified antibody comprises an Fab, Fab', Fv, $F(ab')_2$, Fd, or a single chain Fv.

28. The antibody of claim 24, wherein the antibody contains a cytotoxic molecule.

29. The antibody of claim 28, wherein the cytotoxic molecule is selected from a bacterial toxin, plant toxin, radionuclide, cytotoxic drug, or cytokine.

30. The antibody of claim 29, wherein the radionuclide is an alpha, beta or gamma emitter.

31. The antibody of claim 24, wherein the antibody contains a detectable label or tag.

32. The antibody of claim 31, wherein the detectable label is selected from a radioisotope, fluorescent compound, colloidal metal, chemiluminescent compound, bioluminescent compound, enzyme or a paramagnetic label.

33. A nucleic acid that encodes the antibody of claim 1.

34. A nucleic acid that encodes an amino acid subsequence of the antibody of claim 1.

35. A cell that contains the nucleic acid of claim 33.

36. A cell that expresses the antibody of claim 1.

37. The cell of claim 36, wherein said cell is a hybridoma.

38. A composition comprising the antibody of claim 1, and one or more anti-tumor or immune enhancing agents.

39. The composition of claim 38, wherein the agent comprises an antibody that binds to an antigen.

40. The composition of claim 1, further comprising an antibody denoted as RM2 (ATCC deposit No. PTA-5411).

41. A kit comprising the composition of claim 40.

42. A kit comprising the antibody of claim 1.

43. A kit comprising the antibody of claim 24.

44. A pharmaceutical composition comprising the antibody of claims 1, 24 or 40 and a pharmaceutically acceptable carrier.

45. A method of producing an antibody of claim 1, comprising:

a) introducing a nucleic acid that encodes the antibody of claim 1 into a host cell or a translation extract,

b) incubating said host cell or extract under conditions whereby said nucleic acid is expressed as a translation product comprising said antibody; and

c) isolating said antibody.

46. A method of detecting the presence of AgRM4 comprising:

a) contacting AgRM4 or a sample that may contain AgRM4 with the antibody of claim 1 under conditions allowing the antibody to bind AgRM4; and

b) assaying for the presence of AgRM4, wherein detecting AgRM4 indicates the presence of AgRM4.

47. The method of claim 46, wherein the detecting is in vivo or in vitro.

48. The method of claim 46, wherein the antibody contains a detectable label.

49. The method of claim 48, wherein the detectable label is selected from a radioisotope, fluorescent compound, colloidal metal, chemiluminescent compound, bioluminescent compound, enzyme or a paramagnetic label.

50. The method of claim 49, wherein the radioisotope is an alpha, beta or gamma emitter.

51. A method of detecting the presence of AgRM4 in a subject comprising:

a) contacting a subject or a sample from a subject with the antibody of claim 1 under conditions allowing the antibody to bind to AgRM4; and

b) determining the presence of AgRM4 in the subject or in the sample, wherein the presence of AgRM4 indicates the presence of AgRM4 in the subject.

52. A method of identifying an inhibitor or stimulator of AgRM4 expression, comprising:

a) contacting a cell that expresses or is capable of expressing AgRM4 with a test compound; and

b) detecting expression of said AgRM4, wherein a change in expression indicates that the test compound is an inhibitor or stimulator of AgRM4 expression.

53. A method of inhibiting or preventing the proliferation of a cell that expresses AgRM4 comprising contacting the cell with an amount of antibody of claim 1 sufficient to inhibit or prevent proliferation of the cell.

54. The method of claim 53, wherein the cell is a proliferating cell.

55. The method of claim 54, wherein the proliferating cell is selected from a brain, lung, skin or pancreatic cell.

56. The method of claim 53, wherein the cell is a hyperproliferating cell.

57. The method of claim 54, wherein the hyperproliferating cell comprises a metastatic or non-metastatic cancer cell.

58. The method of claim 57, wherein the metastatic or non-metastatic cancer cell is selected from a breast, colon, gut, or lung cell.

59. The method of claim 53, wherein the cell is present in a subject.

60. The method of claim 53, wherein the subject is a mammal.

61. The method of claim 53, wherein the subject is human.

62. A method of treating a hyperproliferative cell disorder, wherein at least a portion of the hyperproliferative cells express AgRM4, comprising administering to a subject an amount of the antibody of claims 1, 24 or 40 sufficient to treat the hyperproliferative cell disorder.

63. The method of claim 62, wherein at least a part of the hyperproliferative cells are present in breast, colon, gut, or lung.

64. The method of claim 62, wherein the hyperproliferative cell disorder comprises a metastatic or non-metastatic cancer.

65. The method of claim 62, wherein the subject is a mammal.

66. The method of claim 62, wherein the subject is human.

67. A method of treating a subject having or at risk of having a tumor, comprising administering to the subject an amount of human monoclonal antibody designated RM4

(ATCC deposit No. PTA-5412) that selectively binds to an antigen designated AgRM4, effective to treat the subject.

68. The method of claim 67, wherein the antibody has the binding specificity of the antibody of claim 1.

69. The method of claim 67, wherein the antibody competes for the binding of the antibody of claim 1 to AgRM4.

70. The method of claim 67, wherein the antibody binds to an epitope of AgRM4 to which the antibody of claim 1 binds.

71. The method of claim 67, wherein the tumor comprises a stage I, II, III, IV or V tumor.

72. The method of claim 67, wherein the tumor is solid or liquid.

73. The method of claim 67, wherein the tumor is located at least in part in breast, colon, gut, or lung.

74. The method of claim 67, wherein the tumor is hematopoetic.

75. The method of claim 67, wherein the tumor is metastatic or non-metastatic.

76. The method of claim 67, wherein the tumor comprises a sarcoma, carcinoma, melanoma, myeloma, blastoma, lymphoma or leukemia.

77. The method of claim 67, wherein the treatment reduces tumor volume, inhibits an increase in tumor volume, inhibits progression of the tumor, stimulates tumor cell lysis or apoptosis, or reduces tumor metastasis.

78. The method of claim 67, wherein the treatment reduces one or more adverse symptoms associated with the tumor.

79. The method of claim 67, wherein the treatment reduces mortality.

80. The method of claim 67, wherein the subject is a candidate for, is undergoing, or has undergone anti-tumor therapy.

81. The method of claim 67, further comprising administering an anti-tumor or immune enhancing agent.

82. The method of claim 67, further comprising administering an antibody.

83. The method of claim 82, wherein the antibody comprises RM2 (ATCC deposit No. PTA-5411).

84. A method of screening for the presence of a hyperproliferative disorder in a subject, said hyperproliferative disorder in a tissue selected from breast, colon, gut, lung, brain, skin or pancreas, comprising:

a) contacting the tissue in vitro or *in vivo* with an RM4 antibody (ATCC deposit No. PTA-5412); and

b) assaying for the presence of AgRM4, wherein the presence of AgRM4 in the tissue indicates the presence of a hyperproliferative disorder in a subject.